poasca mali were found on these trees at this time. These nymphs were more pale than those of *Empoasca mali* and lacked the yellowish tinge. Young nymphs were also found on elm leaves at Charles City, Iowa, May 22, and on maple leaves at Ames, May 31.

Nymphs from both elm and maple leaves were reared to maturity in the insectary, adults being found May 31 to June 15, and the species was then determined as *Typhlocyba rosae.*

On June 11 many of the older nymphs and adults, as well as a few newly hatched nymphs of this species were found on elm leaves at Ames. These youngest nymphs may have been the first of a second generation. The species has been found commonly throughout the summer on apple leaves.

Prof. Herbert Osborn kindly looked over some of the bred material of the three species while he was in Ames during June, 1909, and made tentative determinations for me at that time.

West Indian Cecidomyiidae.

By E. P. Felt, Albany, N. Y.

Cecidomyia manihot n. sp.

This yellowish brown species, only about 1 mm. long, was reared from leaf galls on *Cassava, Manihot utilissima,* by William H. Patterson, Agricultural School, St. Vincent, W. I. The male may be recognized most easily by the long, deeply and roundly emarginate ventral plate and the short stems separating the antennal enlargements.

Male.—Length 1 mm. Antennæ ½ longer than the body, thickly haired, fuscous yellowish; 14 segments, the fifth binodose, the basal stem with a length equal to its diameter, the distal portion of the stem with a length twice its diameter, the basal enlargement subglobose, the distal enlargement with a length ½ greater than its diameter, the three circumfili with rather long, sparse loops. Palpi; basal segment subquadrate, the second with a length four times its diameter, the third as long as the second, the fourth a little longer than the third. Mesonotum fuscous yellowish, the median area lighter. Scutellum yellowish, postscutellum darker. Abdomen yellowish brown, the genitalia yellowish. Costa reddish straw, subcosta at the basal third, the third vein at

the apex. Halteres yellowish. Coxae pale yellowish; femora and tibiae pale straw, the tarsi fuscous straw; claws long, slender, simple, the pulvilli rudimentary; basal clasp segment rather long, stout; terminal clasp segment long, slightly curved; dorsal plate long, broad, deeply and narrowly incised, the lobes truncate, setose; ventral plate long, deeply and roundly emarginate, the lobes stout, roundly truncate; style long.

Female.—Length 1.25 mm. Antennæ nearly as long as the body, sparsely haired, pale straw; 14 segments, the fifth with a stem about ½ the length of the subcylindric basal enlargement, which latter has a length twice its diameter; subbasal and subapical whorls sparse. Mesonotum reddish brown, the submedian area yellowish. Scutellum and postscutellum yellowish. Abdomen reddish brown, darker basally. Costa reddish brown. Coxae and femora basally yellowish, distal portion of femora, tibiæ and basal tarsal segments pale straw, the distal tarsal segments darker. Ovipositor short, the terminal lobes narrowly oval, thickly setose, minor lobes short, broad. Other characters nearly as in the opposite sex.

Type.—Cecid. 1380, N. Y. State Museum.

In this connection it may be well to note that *Clinodiplosis brasiliensis* Rubs. has been described from larvae occurring in leaf galls of *Manihot utilissima*. The two cannot be identical if Rubsaamen's generic reference is correct.

Camptoneuromyia meridionalis n. sp.

This West Indian form may be separated from known American species by the reddish brown abdomen and the nineteen antennal segments, the fifth having a length about equal to its diameter. This species was received from William H. Patterson, of the Agricultural School, St. Vincent, W. I., and was evidently reared March 3, 1910 with *Schizomyia ipomocae* Felt, from flower buds of *Ipomoea*.

Female.—Length .75 mm. Antennæ ¾ the length of the body, thickly haired, dark brown; 19 segments, the fifth with a length about equal to its diameter; terminal segment slightly produced, with a length ½ greater than its diameter. Palpi; first segment probably short, the second with a length three times its diameter, the third as long as the second, more slender, the fourth ½ longer than the third, dilated. Mesonotum dark brown, the submedian lines sparsely haired. Scutellum yellowish brown, postscutellum dark brown. Abdomen reddish brown; ovipositor probably as long as the abdomen, the terminal lobes

long, slender, thickly setose. Wings broad, basal half of subcosta thickly scaled, dark brown, subcosta indistinct, the third vein sparsely scaled and uniting with costa at the basal half. Halteres yellowish. Coxæ and femora basally yellowish, the distal portion of femora and tibiae fuscous yellowish, tarsi fuscous; claws long, slender, the pulvilli short.

Type.—Cecid. 1379, N. Y. State Museum.

Schizomyia ipomoeae Felt.

Examples of the larvae having been received, it is briefly described as follows:

Larva, length 3 mm., rather stout, yellowish or yellowish orange. Head small; antennae rather long, stout; breast-bone well chitinized, bidentate, tapering and somewhat obsolescent. Skin coarsely shagreened. Posterior extremity broadly rounded.

New and Little-known Western Bees.

By T. D. A. Cockerell.

Chelynia cusackae sp. nov.

♀. Length about 9½ mm., parallel-sided, of the usual form; blue-black, very faintly metallic, the prothorax and area of metathorax shining green, the pleura and posterior side of middle femora also green; pubescence long and coarse, entirely black; antennæ dark, the flagellum, except near base, faintly brownish beneath; tegulæ black; wings strongly dusky, brown-stained, the nervures fuscous; spurs of hind tibiæ stout and black. The sculpture is as in other species; the venation also is normal, except that the second s. m. is very long, very much longer than the first. The b. n. goes a little basad of t.m. Related to *C. pavonina* Ckll., but easily known by its dark color, narrower form, paler nervures and longer second submarginal cell. The ventral surface of the abdomen is brilliantly green and purplish.

Hab.—Cusack Ranch, Wet Mountain Valley, Colorado, June (*Cockerell*). The species is dedicated to the memory of Mrs. M. E. Cusack, an excellent botantist, who was resident at the type locality; her herbarium is now incorporated with the collections at Kew. Type in British Museum, where it has been for the last twenty years, unnamed.

Osmia integra Cresson.

West Cliff, Colorado, May 19, 1889 (*Cockerell*); Brit. Museum, ♂. This species must be rare, as I have not taken it in recent years. According to the characters given by Robert-